LAURA M. PLUNKETT, Ph.D., D.A.B.T.

EDUCATION

1984 Ph.D., Pharmacology, University of Georgia

1980 B.S., Zoology, University of Georgia

EXPERIENCE

Dr. Plunkett is a Manager at ENVIRON Corporation. She has five years experience in research in the areas of cardiovascular and neuropharmacology and toxicology. In addition to experience in both government and academic research she has taught pharmacology and toxicology at the undergraduate and postgraduate levels.

Dr. Plunkett received her B.S. degree in Zoology from the University of Georgia in 1980, and her Ph.D. in Pharmacology and Toxicology from the University of Georgia in 1984. Her doctoral thesis examined neural mechanisms of digitalis cardiotoxicity. Her postdoctoral work at the National Institute of Mental Health focused on central nervous system control of autonomic function. In her three years on the faculty at the University of Arkansas for Medical Sciences, her research was centered on the neurochemical systems involved in the control of cardiovascular function. She has also taught courses in pharmacology and toxicology at both the undergraduate and graduate level.

Her experience at ENVIRON includes the following:

- Reviewed, critically evaluated, and summarized data on the toxic effects, background exposure levels, and risks associated with exposure to a broad range of environmental contaminants in environmental media.

- Reviewed and critically evaluated available data on the relationship between blood and brain cholinesterase levels and biological effects of cholinesterase-inhibiting pesticides. The result was a report presenting recommendations to a state agency on methods to assess health effects of cholinesterase inhibitors.

- Prepared an extensive report for FDA review on the association between β-agonist drugs and rodent leiomyomas to support a threshold assessment of a compound to be used in food animals. The document also included a critical evaluation of the pharmacology and toxicology of that compound.

- Compiled, evaluated, and summarized the available information and prepared a report to support a legal opinion on the application of bioequivalence standards to locally acting drug products.

- Critically examined and used the biokinetic model for predicting blood lead levels and clean-up levels for lead in various media for a variety of projects.

- Reviewed and critically evaluated the issues surrounding safety testing of a breast implant medical device. A document was prepared to suggest appropriate designs for toxicity studies to ensure safety of the device in humans.

- Prepared an extensive report on the neurochemical effects of an amino acid and the relationship of those effects to evaluating the safety of a natural food product.

- Critically examined and evaluated the toxicological data on an antibiotic for use in food-producing animals. Prepared a weight of the evidence document to support the safety of the compound.

- Reviewed and critically evaluated the literature available on the dermato-pharmacokinetics of PCBs.

- Derived risk values for several compounds that related to California's Proposition 65 issues.

Before joining ENVIRON, Dr. Plunkett held the following positions:

- Assistant Professor, Department of Pharmacology and Toxicology, University of Arkansas for Medical Sciences. Performed independent research into the neurochemical basis of autonomic function and the relationships of stress, aging, and hypertension to alterations in central nervous system function. Taught graduate and medical school courses in pharmacology, toxicology, and neuroscience.

- Postdoctoral fellow, Pharmacology Research Associate Training Program, National Institute of General Medical Sciences. Performed research into the neurochemical basis of autonomic function with particular emphasis on neuropeptides. Developed new autoradiographic techniques for identification of neuropeptide binding in rat brain nuclei.

- Research Assistant, Department of Pharmacology and Toxicology, University of Georgia, College of Pharmacy. Performed research investigating central nervous system mechanisms associated with cardiac glycoside toxicity. Taught pharmacology laboratory course for pharmacy students.

LAURA M. PLUNKETT, Ph.D.

HONORS

Alpha Lambda Delta, The University of Georgia Chapter, initiated 1978.
Recipient of Excellence in Graduate Research Award, The University of Georgia, College of Pharmacy, 1983.

Rho Chi, The University of Georgia, College of Pharmacy, Initiated 1984.

Chosen for PRAT program at National Institutes of Health, Pharmacology Research Associate Training Program, 1984 - 1986.

Diplomate, American Board of Toxicology

PROFESSIONAL MEMBERSHIPS

Member, Society for Neuroscience.

Member, American Association for Advancement of Science.

PUBLICATIONS AND PRESENTATIONS

Plunkett, L.M., L.J. Rosolowsky, D.M. Lerner, and S.T. Washburn. A biokinetic model for predicting blood lead levels in adults living near a former battery recycling facility. *Environ. Geochemistr. Health* (in press).

Plunkett, L.M, D. Turnbull and J. V. Rodricks. 1992. Differences between adults and children affecting exposure assessment. In: Similarities and Differences Between Children and Adults: Implications for Risk Assessment. P.S. Guzelian, C.J. Henry and S.S. Olin (eds.) ILSI Press, Washington D.C., 79-96.

Owens, S.M., and L.M. Plunkett. The use of radioimmunoassay as a method in drug testing. (in press).

Plunkett, L.M. and S.M. Brett. 1991. A new look at lead: sources, exposures, and uptake in populations at risk. *ENVIRON Report*. 5:6-9.

Plunkett, L.M. and V.H. Frankos. 1991. FDA re-examines the safety of silicone gel-filled breast implants. *ENVIRON Report*. 5:10-13.

Plunkett, L.M., E. Seifen, and R.H. Kennedy. 1989. Effect of morphine pretreatment on cocaine cardiotoxicity in anesthetized guinea pigs. *Arch. Int. Pharmacodyn.* 297:60-67.

Zorbas, M., S.M. Owens, L.M. Plunkett, and H. Bui. 1989. The pharmacokinetics of [^{3}H]-[1-(2-thienyl)cyclohexyl]piperidine (TCP) in Sprague Dawley rats. *J. Drug Metab. Disposit.* 17:641-645.

Seifen, E., L.M. Plunkett, and R.H. Kennedy. 1989. Cardiovascular and lethal effects of cocaine in anesthetized dogs and guinea pigs. *Arch. Int. Pharmacodyn.* 300:241-253.

McCarty, R., and L.M. Plunkett. 1988. Regulation of binding sites for atrial natriuretic factor (ANF) in rat brain. *Peptides* 9(S1):3-8.

Stewart, R.E., S.E. Swithers, L.M. Plunkett, and R. McCarty. 1988. ANF receptors: distribution and regulation in central and peripheral tissues. *Neurosci. Biobehav. Rev.* 12: 151-168.

Plunkett, L.M., and R.L. Tackett. 1987. Central dopamine receptors and their role in digoxin-induced cardiotoxicity in the dog. *J. Pharm. Pharmacol.* 39:29-34.

Plunkett, L.M., and R.L. Tackett. 1987. Increases in CSF norepinephrine associated with the onset of cardiac glycoside toxicity. *Eur. J. Pharmacol.* 136:119-122.

McCarty, R., and L.M. Plunkett. 1987. Quantitative autoradiographic analysis of somatostatin binding sites in discrete areas of rat brain. *Brain Res. Bull.* 18:289-94.

Plunkett, L.M., K. Shigematsu, M. Kurihara, and J.M. Saavedra. 1987. Localization of angiotensin II receptors along the anteroventral-third ventricle area of the rat brain. *Brain Res.* 405:205-212.

Israel, A., L.M. Plunkett, and J.M. Saavedra. 1986. Increased number of angiotension II binding sites determined by autoradiography in anterior pituitary of water deprived and Brattleboro rats. *Neuroendocrinology* 42:57-63.

Saavedra, J.M., L.M. Plunkett, F.M.A. Correa, A. Israel, M. Kurihara, and K. Shigematsu. 1986. Quantitative autoradiography of angiotensin and atrial natriuretic factor binding sites in brain nuclei of spontaneously hypertensive rats. In *Brain Peptides and Catecholamines in Cardiovascular Regulation in Normal and Disease States.*

Saavedra, J.M., F.M.A. Correa, L.M. Plunkett, A. Israel, M. Kurihara, and K. Shigematsu. 1986. Angiotensin and atrial natriuretic peptide binding in brain of hypertensive rats. *Nature* 320:758-760.

McCarty, R.M., and L.M. Plunkett. 1986. Forebrain atriopeptin binding sites: Alterations in spontaneously hypertensive rats. *Neurochem. Int.* 9:177-183.

Shigematsu, K., J.M. Saavedra, L.M. Plunkett, M. Kurihara, and F.M.A. Correa. 1986. Angiotensin II binding sites in the anteroventral-third-ventricle (AV3V) area and related structures of the rat brain. *Neurosci. Lett.* 67:37-41.

Correa, F.M.A., L.M. Plunkett, and J.M. Saavedra. 1986. Quantitative distribution of angiotensin-coverting enzyme (kininase II) in discrete areas of the rat brain by autoradiography with computerized microdensitometry. *Brain Res.* 275:259-266.

Saavedra, J.M., A. Israel, L.M. Plunkett, M. Kurihara, K. Shigematsu, and F.M.A. Correa. 1986. Quantitative distribution of angiotensin II binding sites in rat brain by autoradiography. *Peptides* 7:679-687.

McCarty, R., and L.M. Plunkett. 1986. Binding sites for atrial natriuretic factor (ANF) in brain: alterations in Brattleboro rats. *Brain Res. Bull.* 17:767-772.

Plunkett, L.M., R.D. Gokhale, J.J. Vallner, and R.L. Tackett. 1985. Prazosin alters free and total plasma digoxin in dogs. *Am. Heart J.* 109:847-851.

Plunkett, L.M., and R.L. Tackett. 1985. The effects of central beta-receptor antagonism on digoxin cardiotoxicity. *Res. Comm. Chem. Path. Pharmacol.* 48:209-220.

Israel, A., J.M. Saavedra, and L. Plunkett. 1985. Water deprivation upregulates angiotensin II receptors in rat anterior pituitary. *Am. J. Physiol.* 248 (Endocrino. Metabl. II):E264-E267.

Niwa, M., K. Shigematsu, L. Plunkett, and J.M. Saavedra. 1985. High affinity substance P binding sites in rat sympathetic ganglia. *Am. J. Physiol.* 249 (Heart Circ. Physiol 18):H694-H697.

Correa, F.M.A., L.M. Plunkett, J.M. Saavedra, and M. Hichens. 1985. Quantitative autoradiographic determination of angiotensin-coverting enzyme (kininase II) kinetics in individual rat brain nuclei with ^{125}I-351A, a specific enzyme inhibitor. *Brain Res.* 347:192-195.

Israel, A., M. Niwa, L.M. Plunkett, and J.M. Saavedra. 1985. High affinity angiotensin receptors in rat adrenal medulla. *Regul. Pept.* 11:237-243.

Israel, A., L.M. Plunkett, and J.M. Saavedra. 1985. Quantitative autoradiographic characterization of receptors for angiotensin II and other neuropeptides in individual brain nuclei and peripheral tissues from single rats. *Cell. Mol. Neurobiol.* 5:211-222.

Plunkett, L.M., F.M.A. Correa, and J.M. Saavedra. 1985. Quantitative autoradiographic determination of angiotensin-converting enzyme kinetics in rat pituitary and adrenal glands with ^{125}I-135A, a specific inhibitor. *Regul. Pept.* 12:1-10.

Plunkett, L.M., and J.M. Saavedra. 1985. Increased angiotensin II binding affinity in the nucleus tractus solitarius of spontaneously hypertensive rats. *Proc. Natl. Acad. Sci.* (USA) 82:7721-7724.

Plunkett, L.M., and R.L. Tackett. 1983. Central alpha receptors and their role in digoxin cardiotoxicity. *J. Pharmacol. Exp. Ther.* 227:683-686.

ABSTRACTS

Plunkett, L.M. and R.L. Tackett. 1982. Central alpha receptors and their role in digitalis cardiotoxicity. The Pharmacologist 24:489A.

Plunkett, L.M. and R.L. Tackett. 1982. Central alpha antagonism decreases blood pressure in the dog. Proc. Soc. Exp. Biol. Med. S.E. Sec. 7:12A.

Plunkett, L.M. and R.L. Tackett. 1983. CSF catecholamine activity decreases during cardiac glycoside-induced arhythmogenesis. The Pharmacologist 25:745.

Tackett, R.L. and L.M. Plunkett. 1983. Naloxone inhibits the central hypotensive actions of propranolol. The Pharmacologist 25:101.

Plunkett, L.M., J.J. Vallner, and R.L. Tackett. 1983. Prazosin lowers plasma digoxin levels. American Heart Assoc. (GA affiliate), pg. 15 (Savannah meeting).

Tackett, R.L. and L.M. Plunkett. 1983. BHT 933 lowers blood pressure and increases cerebrospinal fluid norepinephrine levels. American Heart Assoc. (GA Affiliate), pg. 16, (Savannah meeting).

Bayoumi, S.M., R. Gokhale, L. Plunkett, and J.J. Vallner. 1983. Pharmacokinetics of clortrimazole in dogs. Acad. Pharmaceut. Sci., Vol. 13(2):204, (Miami meeting).

Plunkett, L.M., M. Niwa, K. Shigematsu, and J.M. Saavedra. 1985. Increased angiotensin II (ANG) binding in superior cervical ganglia of spontaneously hypertensive rats (SHR). Fed. Proc. 3: 498.

Plunkett, L.M. and J.M. Saavedra. 1985. Discrete localization of angiotensin II (ANG) binding sites in rat brainstem by quantitative autoradiography. Neural and Endocrine Peptides and Receptors, Symposium '85, Washington, D.C., May.

Plunkett, L.M., A. Israel, M. Niwa, K. Shigenatsu, and J.M. Saavedra. 1985. Alterations in angiotensin II binding in pituitary gland, adrenal gland and superior cervical ganglia of spontaneously hypertensive rats (SHR) as determined by quantitative autoradiography. Neural and Endocrine Peptides and Receptors, Symposium '85, Washington, DC, May.

Shigematsu, K., M. Niwa, L.M. Plunkett, and J.M. Saavedra. 1985. High affinity substance P binding sites in rat sympathetic ganglia. Neural and Endocrine Peptide and Receptors, Symposium '85, Washington, DC, May.

McCarty, R., L.M. Plunkett, A. Israel, and J.M. Saavedra. 1985. Quantitation of somatostatin binding sites in rat brain. Neural and Endocrine Peptides and Receptors, Symposium '85, Washington, DC, May.

Plunkett, L.M. and J.M. Saavedra. 1985. Increased angiotensin II (ANG) binding in brainstem nuclei of adult spontaneously hypertensive rats (SHR) by quantitative autoradiography. Interamerican Society of Hypertension, Cleveland, OH, May.

Saavedra, J.M., L.M. Plunkett, M. Niwa, A. Israel, K. Shigematsu, R. McCarty, and F.M.A. Correa. 1985. Autoradiographic-microdensitometric methods for the kinetic analysis of neuropeptide receptors and peptidases in individual brain nuclei. IVth World Congress of Biological Psychiatry, Philadelphia, PA, September.

Plunkett, L.M. and J.M. Saavedra. 1985. Altered angiotensin II binding in ganglia and brainstem nuclei of spontaneously hypertensive rats (SHR). Council for High Blood Pressure Research, Cleveland, OH, September.

Plunkett, L.M., F.M.A. Correa, and J.M. Saavedra. 1985. Quantification of angiotensin-1-converting enzyme kinetics in individual rat pituitary and adrenal glands with ^{125}I-MK351A, a specific enzyme inhibitor. Society for Neuroscience, Dallas, Texas, October.

McCarty, R., L.M. Plunkett, K. Shigematsu, and J.M. Saavedra. 1985. Quantitative autoradiographic analysis of somatostatin binding sites in discrete areas of rat brain. Society for Neuroscience, Dallas, Texas, October.

Correa, F.M.A., L.M. Plunkett, and J.M. Saavedra. 1985. Quantitative autoradiographic determination of angiotensin-converting enzyme distribution in rat brain with ^{125}I-MK351A, a specific inhibitor. Society for Neuroscience, Dallas, Texas, October.

Plunkett, L.M. and J.M. Saavedra. 1985. Altered angiotensin II binding kinetics in brainstem, pituitary gland, and adrenal gland in adult SHR. 5th International Symposium on SHR and Related Studies, Tokyo, Japan, October.

Plunkett, L.M., N. Alexander, and J.M. Saavedra. 1986. Altered angiotensin II binding in adrenal gland, pituitary gland and brain of sinoaortic denervated rats. Am. Soc. Hypertension. New York City. May.

Saavedra, J.M., L.M. Plunkett, and F.M.A. Correa. 1986. Increased number of angiotensin II binding sites in the subfornical organ of spontaneously hypertensive rates. Am. Soc. Hypertension. New York City. May.

Massey, B.W., L.M. Plunkett, R.H. Kennedy, and E. Seifen. 1987. Alterations in brain angiotensin II binding in the aged rat. Soc. Neuroscience, Abstracts, p. 722.

Plunkett, L.M., R.H. Kennedy, and E. Seifen. 1988. Effects of chronic stress on myocardial beta-adrenergic receptor binding. The Pharmacologist A1300.

Evans, R.E., L.M. Plunkett, R.H. Kennedy, and E. Seifen. 1988. [^{3}H]Ouabain binding to regions of rat heart as determined by autoradiography. The Pharmacologist A41.

Zorbas, M., S.M. Owens, L.M. Plunkett, and H. Bui. 1989. [^{3}H]TCP protein binding and pharmacokinetics in Sprague-Dawley rat. The FASEB J. 3:A1036.

Plunkett, L.M., S.M. Owens, M. Gunnell, and R.B. Owens. 1990. The effect of chronic phencyclidine (PCP) and phenylcyclohexene (PC) dosing on [^{3}H]TCP and [^{3}H] haloperidol binding in rat brain. The FASEB J. 4:A329.

Owens, R.B., S.M. Owens, M. Gunnell, and L.M. Plunkett. 1990. The effect of chronic phencyclidine (PCP) and phenylclohexene (PC) on lymphocyte in subsets in rats. The FASEB J. 4:A337.

Plunkett, L.M., L.J. Rosolowsky, D.M. Lerner, and S.T. Washburn. 1993. A biokinetic model for predicting blood lead levels in adults living near a former battery recycling faciltiy. SEGH Conference, July, New Orleans, LA.

Rosolowsky, L.J., K.G. Edelmann, and L.M. Plunkett. 1993. A biokinetic model for predicting blood lead levels in adults that accounts for intermittent exposures. Society for Risk Analysis, December.

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